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ABSTRACT

The unit of individualized learning activities is designed to provide training in grounds maintenance. The materials in the unit are divided into two sections. The developmental or preliminary phase (15 pages) is for use by the instructor and includes brief descriptions of the job and of the student population, along with listings of the specific tasks, course prerequisites, and objectives. The curriculum phase (94 pages), for use by the student, contains directions, objectives, learning activities, pre- and posttests. These two components together form a "job entry", a unit of work which, when completed by the student, insures his training in a designated job skill. Five learning activity packages are provided: (1) selection of grasses for lawns and turfs, (2) establishing lawns and turfs in Florida, (3) controlling insects and diseases of lawns and turfs, (4) care and maintenance of lawns and turfs, and (5) proper use and care of lawn tools and equipment. Suggestions are included to aid the instructor in his role as guide in the individualized instruction format. (NJ)

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ED112183

HORTICULTURE

Grounds Maintenance Employee

(VT 101 975)

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TO THE INSTRUCTOR

THE JOB ENTRY PACKAGE

The materials in this package have been developed in two distinct sections -- the developmental phase which looks closely at the job and the student, and the curriculum phase designed for actual student use (Learning Activity Packages). These two components together form a "Job Entry" -- a unit of work which, when completed by the student, insures his training in a designated job skill.

COMPONENTS OF THE JOB ENTRY PACKAGE

I. Developmental or Preliminary Phase - (blue sheets) placed at the beginning of the Job Entry for use by the instructor.

Includes the following components:

A. Description of Student Population: designed to describe the type of student for whom the curriculum was developed.

B. Job Description: a brief description of the job. This forms the basis for developing the job entry curriculum. (Course Description is used in "Introduction" packs.)

C. Task Listing Sheet: a breakdown of the job into specific tasks. (Not included in "Introduction" packs.)

D. Task Detailing Sheets: placed before each learning activity package to indicate steps in performing specific vocational tasks being dealt with in package; includes the type of performance of each task (manipulation, discrimination, recall, etc.) and the learning difficulty of each. (Not included in "Introduction" packs.) Vocational instructional objectives are fashioned from these details.

E. Job Prerequisites: listing of standards student must meet before gaining entrance to a specific job entry study.

F. Prerequisite Test: checklist to be used by the instructor to determine if student meets stated prerequisites. Includes suggested types of tests to be used.

G. Job Objectives: a composite list of all vocational and related academic objectives which must be met by student in order to be certified in a particular job entry. Individual LAP packages are fashioned from these objectives.

II. Curriculum Phase - (white sheets) for use by students. One LAP package is developed to correspond with each task detailing sheet. The LAP package includes both vocational material and fused, related academic material in a variety of disciplines.

Includes the following components:

A. directions.

B. goal of package: states package's broad objective and includes statement of minimum acceptable performance.

C. specific objectives: states the expected behavior changes in the student.

D. activities: those specific things the student must do to accomplish stated specific objectives.

E. study and work sheets: included within package for particular activities.

F. Pretest: A test instrument to be administered before giving students package; this is used to determine if the student needs to cover material within package. If student proves his competency, he may take post test and, if results are satisfactory, proceed to the next LAP.

G. Post Test: A test instrument to be administered upon completion of learning activity package. If student completes successfully, he may continue to next LAP within job entry.

H. Evaluation Sheet: a checklist used by the instructor to record student progress.

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Bibliography: a composite list of all reference material used within LAPS.

SUGGESTIONS FOR IMPLEMENTATION OF LEARNING ACTIVITY PACKAGES

Using individualized instruction, (LAPS), requires some changes in classroom methods. Since individualizing instruction allows the

student to move at his own pace according to his particular abilities, it allows him to gain self-reliance; it also necessitates that the instructor assume the additional role of manager and director.

Individualized instruction prods the student to plot his own course, while the instructor acts as a guide to insure that course is a fruitful one.

The following suggestions are designed to aid the instructor in his new role as classroom manager and director.

1. For activities involving discussions, films, speakers, field trips or demonstrations by instructor, group participation is often necessary. In such cases the instructor should simply stop individual work on LAPs and proceed with group activities. If necessary, students may be briefly refreshed at the appropriate time on content of demonstration, film, etc., either by teacher, fellow student or printed outline of material covered.

   If available, a resource center containing films, tapes, etc., could also be utilized to allow the student who has missed a group film showing, etc., to "catch up" individually.

2. Teachers often find themselves swamped with students clamoring to have activities checked, evaluation sheets signed, etc.

   A good method for avoiding this is to design a "Key" for each LAP (or at least for those activities where a "Key" method would be plausible), allow the student to grade his own LAPS and, if desired, complete his own evaluation sheet.

   This method has the advantage of allowing the student to see why he has "missed" a particular question. Seeing the correct answer will force him to re-evaluate his thinking and, thus, enhance the learning process. If he does not understand a particular answer, he has this opportunity to discuss it with the instructor and correct his thinking before taking the post test.

   Secondly, by completing his own evaluation sheet, the student gains a sense of accomplishment as each activity is checked off and he evaluates his progress and recognizes any weak areas.

   Of course there is the problem of the dishonest student who copies the "Key." The solution to this problem is to design a post test which is comprehensive enough to cover all material within a package. This post test is then graded by the instructor. At this time the student who has cheated in package completion will be exposed and can be instructed to redo the package's activities. This procedure shifts the responsibility

for proper completion of LAPS to the shoulders of the student, eliminating irritating and unnecessary prodding by the instructor.

HINT: It is a good idea to establish a permanent area for use of the "Key" to avoid its being misplaced.

3. One classroom procedure which avoids a great deal of confusion and use of teacher time is the development of a good filing system.

   It is a good idea to use a filing cabinet (boxes will do) to hold all LAPS, Keys, Supplemental material, etc., to be utilized by students. Label these clearly to allow the students to get materials as they are needed. This will eliminate the necessity of interrupting the teacher each time a resource is needed.

   HINT: If desired, students can be required to sign for materials on a sign out sheet.

4. A file folder should be maintained for each student; evaluation checklists, indicating successful completion or stated objectives, should be faithfully filed in this folder. Pretests and post tests may also be included as a part of the student's file.

5. A record should be made charting student progress in the completion of LAPS. The following example might be employed:

		LAP #1	LAP #2	LAP #3
Student's Name	Date Completed:			
	P.T. grade:			
	COMMENTS:			
" " "	" "			
" " "	" "			

6. Students often learn best by working in teams; pair or group students and allow them to work together whenever practical. Let brighter students help slower ones.

If a student reaches an activity which requires a partner (role playing, etc.), ask if any other students in the class are about ready for the particular activity -- if so, let those students work together. If a student appears to be either far ahead or far behind in his activities, it may be necessary for the instructor to be the "Partner."

7. It might be helpful to post a printed list of class procedures and include the locations of various materials incorporated in LAPS.

8. If a few students are moving far ahead of the class, you may wish to design supplemental packages which go into greater depth on the subject being studied, or include "enrichment" activities within regular packages to be done by those who have exceptional capabilities.

9. Where the team approach is utilized and the student uses the same package in a number of classes, it is often wise for the teacher or teacher's aide to collect and distribute packages to avoid loss.

10. It is also suggested that the instructor maintain a master copy of all materials used indicating necessary changes for purposes of future revision.

Though it does involve some changes in methods and philosophy, the individualized LAP approach has many advantages and great potential for meeting the needs of <u>all</u> learners. Through implementation of the above suggestions and additional ideas of your own, you will find it a rewarding and exciting teaching experience.

DESCRIPTION OF STUDENT POPULATION

Physical Characteristics	Male, age 14-19. Physically strong, good stamina.
Education	The majority are potential high school dropouts, some are below average intelligence, lacking in basic academic skills. Majority read below grade level. Travelled little. Know simple arithmetic.
Motivation	Generally interested in working, but some are not committed to horticulture.
Interests	Desire recognition among own peer group, especially from girls. Prefer to work outdoors. Enjoy sports and cars. Interests limited to immediate neighborhood and things around them. Show desire in attending school, but little interest in academic subjects.
Attitudes, Biases and Prejudices	Most live in poor environment, from broken and disturbed homes. Unaccustomed to following instructions. Carefree attitude; seldom serious.

HORTICULTURE

JOB DESCRIPTION

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

Selects grass and turf types. Establishes, maintains and cares for lawns and turfs; controls insects and turf diseases. Uses and maintains lawn tools and equipment.

HORTICULTURE

TASK LISTING SHEET

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

NO.	TASK	FREQUENCY OF PERFORMANCE	IMPORTANCE	LEARNING DIFFICULTY
1	Selects grasses for Florida turfs and lawns	Frequently	1	Difficult
2	Establishes turfs and lawns	Frequently	2	Easy
3	Controls insects and turf diseases	Continuously	1	Difficult
4	Cares for and maintains lawns and turfs	Continuously	1	Easy
5	Uses and cares for lawn tools and equipment	Continuously	1	Easy

JOB PREREQUISITES

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

1. The student grounds maintenance employee must possess good physical stamina.
2. The student must have use of both legs and arms.
3. The student must have functional eyesight.
4. The student must enjoy working outdoors under varying temperatures.
5. The student must like plants and enjoy seeing them grow.
6. The student must be able to read on the 5th grade level.
7. The student must be able to perform the four basic arithmetic operations.
8. Prior enrollment in a vocational agricultural program is desired.
9. The student should not mind working overtime due to seasonal demands for plants.

HORTICULTURE

PREREQUISITE TEST

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

	Yes	No
1. The student does possess good physical stamina. Teacher observation.	____	____
2. The student has the use of both arms and legs. Teacher observation.	____	____
3. The student does have functional vision. Teacher observation or vision test.	____	____
4. The student does enjoy working outdoors under varying temperatures. Student-teacher conference.	____	____
5. The student does like plants and enjoys seeing them grow. Student-teacher conference.	____	____
6. The student can read at a 5th grade level. R.F.U. Reading Test	____	____
Score _____ Reading Level _____		
7. The student can perform the four basic arithmetic operations. W.R.A.T. or L.S.I. Math Test.	____	____
Score _____ Grade Level _____		
8. The student has prior enrollment in a vocational agricultural program. Cumulative records.	____	____
9. The student does not mind working over-time. Teacher-student conference.	____	____

HORTICULTURE

JOB OBJECTIVES

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

1. To develop in the horticulture student those skills necessary for selecting lawn and turf grasses as evidenced by his ability to complete the following with 80% accuracy.

   a. Select and identify 10 varieties and strains of grass used for Florida lawns and turfs.

   b. Demonstrate a knowledge of the physical characteristics of 10 designated varieties of grass.

   c. List advantages and disadvantages of 10 varieties of lawn grass.

   d. Identify and name 5 varieties of plants used for ground cover in Florida.

   e. Determine the various uses and characteristics of ground covers.

2. To assist the horticulture student in learning those skills necessary for establishing lawns and turfs by completing the following with 80% accuracy.

   a. Prepare lawn soil and mix necessary ingredients prior to planting grass or sowing seed.

   b. Grade and level land.

   c. Obtain soil samples and test for pH and nutrient level and recommend needed soil treatment.

   d. Install an irrigation and drainage system.

   e. Plant lawn grasses.

3. To develop in the horticulture student the necessary skills for controlling insects and diseases of lawns and turfs as evidenced by his ability to complete the following with 85% accuracy.

   a. List 5 lawn insects and the physical characteristics of each.

   b. Describe the damage caused by 5 designated lawn insects.

c. List 3 forms in which lawn insecticides are available.

d. List 5 chemicals used to control lawn insects.

e. Identify 3 lawn diseases, the characteristics of each, and a chemical to control each.

f. Diagnose and recommend a control for a particular lawn disease.

g. Diagnose and recommend a control for a given insect problem.

h. Operate and maintain chemical sprayers.

4. To assist the horticulture student in developing those skills necessary to care for and maintain lawns and turfs.

a. Determine the height and frequency of mowing the 5 major types of lawn grass.

b. Adjust a mower to proper height for mowing a particular grass type.

c. Apply granular fertilizer.

d. Determine the frequency and amount of watering needed for specific grasses.

e. List lawn irrigation devices.

f. Install irrigation equipment.

g. Determine and list one herbicide to be used on each of the 5 major types of lawn grasses.

h. Apply an herbicide.

i. Demonstrate a knowledge of thatch buildup and methods for its removal by removing thatch from a designated area.

5. To assist the horticulture student in developing the necessary skills and techniques for using and caring for lawn tools and equipment as evidenced by his ability to complete the following with 85% accuracy.

a. Identify 10 basic lawn tools and equipment.

b. Operate and use 5 given pieces of equipment.

c. Clean and store equipment.

d. Perform preventive maintenance on a designated piece of equipment.

e. Prepare a sample purchase order of tools and equipment needed for entry into lawn maintenance business.

6. To develop desired academic skills for job entry, Grounds Maintenance Employee, horticulture students will complete an assigned number of learning activities which involve each of the following with 85% accuracy.

a. Compose written paragraphs on a given number of related topics applying rules of punctuation, capitalization, grammar and spelling.

b. Spell and pronounce given, related lists of terms.

c. Define given, related lists of terms.

d. Complete an order form.

e. Demonstrate a knowledge of spelling, capitalization and punctuation by making necessary corrections on a written order.

f. Compute totals and tax percentage.

g. Demonstrate a knowledge of the mathematical principles of area and perimeter by completing given, related problems.

h. Supply proper punctuation and capitalization to given sentences.

i. Compose a friendly letter using correct form, punctuation, capitalization and spelling.

j. Demonstrate a knowledge of word meanings by using them in oral or written sentences.

k. Compose a letter of application using proper form, punctuation, capitalization, grammar and spelling.

l. Identify nouns in a written narrative.

m. Compute the amount of discount and net price of given lawn and garden tools and equipment.

HORTICULTURE

TASK DETAILING SHEET

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

TASK: SELECTS LAWN AND TURF GRASS

NO.	STEPS IN PERFORMING TASK	TYPE OF PERFORMANCE	LEARNING DIFFICULTY
1	Selects and identifies varieties and strains of Florida lawn and turf grass.	Discrimination	Difficult
2	Identifies the physical characteristics of Florida lawn and turf grass.	Recall	Difficult
3	Identifies the advantages and disadvantages of varieties of Florida lawn and turf grass	Recall Discrimination	Difficult
4	Identifies 5 varieties of plants used as ground cover in Florida	Recall Discrimination	Difficult
5	Determines the use and characteristics of ground covers	Discrimination	Difficult

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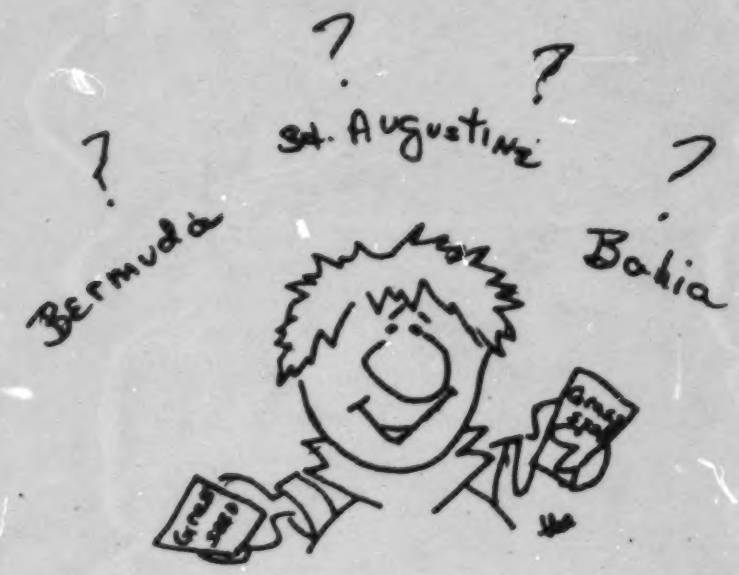
SELECTION OF GRASSES FOR LAWNS AND TURFS



GROUNDS MAINTENANCE EMPLOYEE NAME _____

LAP #1

SELECTION OF GRASSES FOR LAWNS AND TURFS

I. Directions

1. Read the entire package carefully. If you need help, see the instructor.

2. See instructor for pretest.

3. Complete the learning activities.

4. Complete the post test.

   A score of 80% is needed on the horticulture post test, and a score of 85% is needed on each of the related post tests as evidence for successful completion of this package.

5. Use all safety precautions in handling chemicals and using equipment.

II. Goal: To develop in the horticulture student the skills necessary for selecting and identifying turf and lawn grasses.

III. Specific Objectives

The student will

1. select and identify, in writing, 10 varieties and strains of grass used for lawns and turfs in Florida.

2. demonstrate a knowledge of the physical characteristics of each of the 10 varieties of grass by completing a teacher given exercise.

3. list, in writing, the advantages and disadvantages of each of the 10 varieties of grass.

4. identify and list 5 varieties of plants used as ground cover in Florida.

5. determine the various uses and characteristics of ground covers by completing a given exercise.

6. given a specific number of related topics, compose a written paragraph on each, using correct punctuation, capitalization, grammar and spelling.

7. spell and pronounce a given list of related terms.

8. define a given list of related terms.

III. Specific Objectives cont.

9. given necessary information, complete an order form.

10. given a written order, demonstrate a knowledge of spelling, capitalization and punctuation by making necessary corrections.

11. compute totals and tax percentage by completing teacher given problems.

SELECTION OF GRASSES FOR LAWNS AND TURFS

IV. Activities, Materials and Resources

1. Using Florida Lawns and Gardens, pages 17 through 28, make a list of all the types and strains of lawn grass grown in Florida.

2. Using the reference and list of grasses outlined in activity #1, write a paragraph about each type or strain of grass. Include its

   a. characteristics
   b. color
   c. appearance and texture.

   Use correct punctuation, capitalization, grammar and spelling.

3. List, in writing, some advantages and disadvantages for each grass in the list you made in activity #1.

4. Secure samples of five different types of lawn grasses. Attach each sample to a poster board and label.

5. A. Make a list of 5 popular ground covers grown in Florida. Use Florida Lawns and Gardens, page 28 as reference.

   B. List the characteristics of each ground cover you have listed.

6. Learn to spell and pronounce the terms in the vocabulary, pages 4 through 5 of this package.

7. Using the dictionary, write the definitions of the terms in the vocabulary on pages 4 through 5 of this package.

8. Complete the "Word Scramble" activity on page 6 of this package.

9. Complete the "Order Forms" activity on pages 7 through 9 of this package.

SELECTION OF GRASSES FOR LAWNS AND TURFS

Worksheet for Activities #6 and #7: Vocabulary

1. Bermuda _____

2. chinch bugs _____

3. Bahia _____

4. vertithinning _____

5. thatch _____

6. debris _____

7. centipede _____

8. nematodes _____

9. aerate _____

10. renovate _____

11. compaction _____

12. acidity _____

SELECTION OF GRASSES FOR LAWNS AND TURFS

Worksheet for Activities #6 and #7: Vocabulary

13. potash _____

_____

14. broadcast _____

_____

15. decompose _____

_____

SELECTION OF GRASSES FOR LAWNS AND TURFS

Worksheet for Activity #8: Word Scramble

Directions: The following "words" have been scrambled. In their regular form, they may be found in this package or are types of grass used in Florida. See if you can "unscramble" them correctly on the line provided.

furst _____

rassges _____

rumdaber _____

hinhcc gusb _____

aiabh _____

ts. tusaigune _____

berhicied _____

olem ckricte _____

pentiedcee _____

rino _____

metonade _____

tescin _____

chatht _____

malichec _____

sdwee _____

SELECTION OF GRASSES FOR LAWNS AND TURFS

Worksheet for Activity #9: Orders Forms

Directions: Fill in the order forms below with the information given. Compute the cost for each item and total cost of order, plus tax.

Use correct spelling, capitalization and punctuation. Some words in the order as quoted may be misspelled and punctuation may be wrong or lacking.

Order #1 is to Central Nursery Supply Inc., 4526 Greenleaf Drive Pretty City Florida 32987. It is from Petes Plants 5116 Nematode Lane Black Spot Colorado 76521. It is for 1) cataloge number B427CY, 300 square yards of burmuda grass which sells for 5¢ per square foot, 2) cataloge number C72YD, 620 quarts of Spectricide which sells for $2.10 a case (each case contains ten quarts), 3) cataloge number 24DBY, 24 pounds of Ortho Rose Dust which sells for 2¢ an ounce, 4) cataloge number 51A6D, one gross of Keen Steel pruning shears which sell for $1.45 a pair. Pete has to pay Florida sales tax of 4%.

Order #2 is to Good Garden Supply, 4217 Lush Lane Lovely Louisana 0070. It is from Fungus Freds Fernery 2000 1/2 Potted Plant Place, Phew, Pensylvania. It is for 1) cataloque number DBD2XX 40 quarts of Ortho Fungicide which sells for $3.15 a gallon, 2) catalogue number 62RST4 90 cubic yards of peet moss which sells for 3¢ a cubic foot 3) catalogue number 33XYZ1 30-21b. boxes of Ortho Bug Getta tablets which sells for $4.96 a case (each case contains 5 boxes) and 4) catalogue number 42MYX3, 60 pints of Ortho Thiram which sells for 40¢ a quart. Fred has to pay Louisiana tax of 3% on his purchase.

SELECTION OF GRASSES FOR LAWNS AND TURFS

Worksheet for Activity #9 cont.

Order form for Order #1

Date _____

To: _____

Street: _____

City/State _____

Zip Code _____

From: _____

Street _____

City/State _____

Zip Code _____

Cat. No.	Quan.	Description	Price per unit	Total
			____ @ ____	
			Sub. Total	
Cash or	Check:		+ Tax	
			Total	
			26	

SELECTION OF GRASSES FOR LAWNS AND TURFS

Worksheet for Activity #9 cont.

Order form for Order #2

Date _____

To: _____
Name

_____
Number Street

_____
City State Zip

From: _____
Name

_____
Number Street

_____
City State Zip

Cat. No.	Quan.	Description	Price per unit	Total

GROUNDS MAINTENANCE EMPLOYEE

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

PRETEST: NAME _____

I. Fill in the space to the right with the correct word.

1. What type mower is used to mow Bermuda grass? _____
2. Name a complete fertilizer that is satisfactory for an established lawn. _____
3. Name an insecticide used to control chinch bugs. _____
4. What is the proper height for mowing Bahia Grass? _____
5. Name one herbicide used to control weeds in St. Augustine lawns. _____

II. Match the word or phrase in Column b with the correct word in Column A. Use the space provided.

Column A	Column B
_____ 1. Fungicides	a. method used to clean out dead debris
_____ 2. Brown patch	b. a chemical to control diseases
_____ 3. Mole cricket	c. a build-up of grass clippings
_____ 4. Vertithinning	d. chemicals used to control weeds
_____ 5. Thatch	e. an insect affecting most grasses
	f. disease of centipede grass
	g. nematode control for lawns

III. Circle the "T" if the statement is TRUE and the "F" if the statement is FALSE.

T or F 1. The mowing height of Bahia grass is 2 to 2 1/2 in.

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

PRETEST cont. NAME _____

T or F 2. Herbicides are effective in controlling insects of most Florida lawns.

T or F 3. Grasses mowed too short will suffer root damage.

T or F 4. Topsoil should be added to lawns at least once a year.

T or F 5. Iron added to your lawn will give a dark green color.

IV. List 5 popular ground covers used in Florida and give at least one characteristic of each.

GROUNDS MAINTENANCE EMPLOYEE

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

POST TEST: VOCATIONAL NAME _____

1. A temporary grass grown during the winter months is called _____.

2. List in the spaces below 4 types of permanent grasses grown in Florida.

   a. _____ b. _____

   c. _____ d. _____

3. _____ is the most popular variety of Bahia grass grown in Florida today.

4. List four ground covers grown in Florida.

   a. _____ b. _____

   c. _____ d. _____

5. True or False statements (circle the "T" of "F")

T or F a. All grasses grown in Florida have a coarse texture.

T or F b. The color and appearance of a particular grass should be primary concern to a potential home owner.

T or F c. Bahia grasses usually have shorter roots than most other grasses.

T or F d. Ground covers should be under dense shade.

T or F e. One advantage of ground covers is that they never need mowing.

GROUNDS MAINTENANCE EMPLOYEE

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

POST TEST: MATH & LANGUAGE ARTS NAME _____

1. Read carefully the order given below, making any corrections necessary in spelling, punctuation and capitalization.

2. Compute the cost for each item and total cost of the order, plus tax.

The order is to eatonville Nursry Supply Co., 3919 Euclid avenue, Eatonville flordia 32806.
It is from Jacks Nursery, 111 young st. Savannah Georgia 46312.
It is for 1) cataloge number B427CY, 250 yds of burmuda grass which sells for 5¢ per square ft., 2) cataloge number C72YD, 600 qts. of Spectricide which sells for $2.25 a case (each case contains 10 quarts), 3) cataloge number 51A6D, one gross of sharp pruning shears which sell for $1.50 a pair.
The sales tax on the order is 4%.

3. List eight items or parts of an order form.

_____

_____

_____

_____

_____

_____

_____

_____

GROUNDS MAINTENANCE EMPLOYEE

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

POST TEST: LANGUAGE ARTS NAME _____

1. Attach the original and corrected copy of your paragraphs from activity #2.

2. See instructor for a spelling test on the terms you studied in this package.

3. Pronounce, for your instructor, the words you spelled in question #2.

4. For your instructor, orally define the words you spelled in questions #2.

GROUNDS MAINTENANCE EMPLOYEE

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

EVALUATION: NAME _____

The student can	Date Completed	Initial
1. select and identify, in writing, 10 varieties and strains of grass used for lawns and turfs in Florida.	_____	_____
2. demonstrate a knowledge of the physical characteristics of each of the 10 varieties of grass by completing a teacher given exercise.	_____	_____
3. list, in writing, the advantages and disadvantages of each of the 10 varieties of grass.	_____	_____
4. identify and list 5 varieties of plants used as ground cover in Florida.	_____	_____
5. determine the various uses and characteristics of ground covers by completing a given exercise.	_____	_____
6. given a specific number of related topics, compose a written paragraph on each, using correct punctuation, capitalization, grammar and spelling.	_____	_____
7. spell and pronounce a given list of related terms.	_____	_____
8. define a given list of related terms.	_____	_____
9. given necessary information, complete a given order form.	_____	_____
10. given a written order, demonstrate a knowledge of spelling, capitalization and punctuation by making necessary corrections.	_____	_____

GROUNDS MAINTENANCE EMPLOYEE

SELECTION OF GRASSES FOR LAWNS AND TURFS

LAP #1

EVALUATION cont. NAME _____

The student can	Date Completed	Initial
11. compute totals and tax percentage by completing teacher given problems.	_____	_____

HORTICULTURE

TASK DETAILING SHEET

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

TASK: ESTABLISHING LAWNS AND TURFS IN FLORIDA

NO.	STEPS IN PERFORMING TASK	TYPE OF PERFORMANCE	LEARNING DIFFICULTY
1	Prepares lawn soil and mixes necessary ingredients prior to planting grass or sowing seed.	Manipulation	Easy
2	Grades and levels land	Manipulation	Easy
3	Tests soil samples for pH and nutrient level and recommends necessary soil treatment	Discrimination Manipulation	Moderately Difficult
4	Installs irrigation and drainage systems	Manipulation	Moderately Difficult
5	Plants lawn grass using sexual and asexual methods	Manipulation	Easy

WYMORE VOCATIONAL TECHNICAL CENTER

ESTABLISHING LAWNS AND TURFS IN FLORIDA

GROUNDS MAINTENANCE EMPLOYEE NAME _____

LAP #2

ESTABLISHING LAWNS AND TURFS IN FLORIDA

I. Directions

1. Read the entire package carefully. If you need help, see the instructor.

2. See instructor for pretest.

3. Complete the learning activities.

4. Complete the post test.

5. Use all safety precautions when handling equipment. Clean and store all tools when completed.

A score of 85% is needed on the horticulture post test, and a score of 85% is needed on each of the related post tests as evidence for successful completion of this package.

II. Goal: To develop in the horticulture student the skills and techniques needed in establishing lawns and turfs.

III. Specific Objectives

The student will

1. prepare a lawn soil and mix necessary ingredients preparatory to planting grass or sowing seed.

2. grade and level an assigned plot of land.

3. obtain and test soil samples for pH level and nutrient level and recommend necessary soil treatment.

4. install an irrigation and drainage system on an assigned plot of land.

5. plant an assigned plot of land with lawn grass.

6. demonstrate knowledge of the mathematical principles of area and perimeter by completing given, related problems.

7. spell and pronounce a given list of related terms.

8. define, in writing, a given list of related terms.

9. supply necessary punctuation and capitalization to given sentences.

IV. Activities, Materials and Resources

1. Using Florida Lawns and Garden pages 16-17 as a reference, outline on paper the procedures you would follow in preparing the soil for planting a lawn of grass. List at least two ingredients used to improve the organic content of the soil.

2. On an area of land selected and assigned by the instructor, prepare the soil for planting. You will need the following equipment:

   Rototiller
   Rakes
   Fertilizer
   Spreader
   Roller Packer
   Organic Material

3. Level and grade the plot assigned in activity #2 to its proper grade. (A grade of one inch for 25 linear feet will assure adequate drainage.)

4. Read pages 87-89 in Florida Lawns and Gardens. Then sketch on paper the pH scale.

5. See instructor for a demonstration before beginning this activity.

   A. Take a composite soil sample from the plot assigned in activity #2 and test it for pH level.

   B. Record in writing your findings from the pH test. Include your recommendations. Use Florida Lawns and Gardens as a reference. (pages 87-90)

   You will need the following equipment:

   Soil Reaction Test Kit

6. Read pages 97-102 in Florida Lawn and Gardens. Then list 8 essential plant food nutrients.

7. See instructor for a demonstration before beginning this activity.

   Take a composite soil sample from the plot assigned in activity #2 and test for nutrient availibility.

   See the instructor for soil test kit.

IV. Activities, Materials and Resources cont.

8. Read and study pages 104-108 in Beautifying Home Ground.

9. Install an irrigation and drainage system in an area assigned by the instructor.

   You will need the following materials:

pipe cutter	pipe wrench
reamer	shovels
threader	pipe vise
pipe and pipe fittings	

10. Using Florida Lawns and Gardens as a reference, complete "A" and "B".

    A. List on paper the 5 asexual methods propagating lawn grasses. Briefly describe each method.

    B. List and describe the sexual method of propagating lawn grasses.

11. Plant the area of land assigned in activity #2 with an acceptable lawn grass.

12. Solve "Landscaping Mathematics" on pages 4 through 5 of this package.

13. Learn to spell and pronounce the terms in the "Vocabulary," pages 6 through 7 of this package.

14. Define the terms in the vocabulary on pages 6 through 7 of this package. Use your dictionary!

15. Complete the "Word Puzzle" on page 8 of this package.

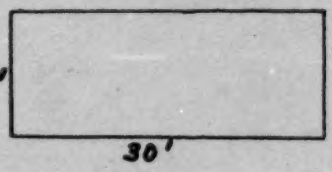
16. Complete the "Sentence Activity" on pages 9 through 10 of this package.

ESTABLISHING LAWNS AND TURFS IN FLORIDA

Worksheet for Activity #12: Landscaping Mathematics

Landscaping Mathematics: Areas, perimeter and basic units of measurements.

This is a diagram of Sam's front yard.



Using the above diagram, answer questions 1-7.

1. The yard has the shape of a _____.

2. What is the perimeter of this yard?
   (Use P = 2L + 2W as a guide)

3. What is the area of this yard?
   (Use A = LW as a guide)

4. Change the perimeter, found in problem 2, to square inches and to square yards.

5. Change the area, found in problem 3, to square inches and to square yards.

6. Sam is planning to set out one row of plants on the north side of his yard. The plants are to be 18 inches apart. How much will the plants cost at 55 1/2¢ each?

Worksheet for Activity #12 cont.

7. Sam would also like the area to be sodded with Bahia grass. How many sq. ft. of sod will he need? At 21 1/2¢ a square foot, how much will the grass cost?

8. A square shaped lawn has an area of 36 sq. ft. Find the perimeter.

9. The perimeter of a square shaped lawn is 200 feet. Find its area.

10. A field is 100 yards long. Using a scale of 1/4 in. = 5 yards, determine how long a line will represent the length of the field.

ESTABLISHING LAWNS AND TURFS IN FLORIDA

Worksheet for Activities #13 and #14: Vocabulary

1. precautions _____

2. erosion _____

3. drainage _____

4. subgrade _____

5. subsoil _____

6. manure _____

7. Sudangrass _____

8. modification _____

9. amendments _____

10. saturate _____

11. penetrate _____

12. rotary tillage _____

Worksheet for Activities #13 and #14 cont.

13. gypsum _____

_____

14. physiochemical _____

_____

15. fescue _____

_____

ESTABLISHING LAWNS AND TURFS IN FLORIDA

Worksheet for Activity #15:

Directions: See how many words related to turf and lawns you can find in the following puzzle. There are at least 20. Circle each word.

A B C H I N C H B U G S C E G I K M O Q
A R M Y W O R M S T V X Y Z O Y S I A B
D F H F E S C U E J L N P R T V X Z A C
S E G I U J L O Q S F E R T I L I Z E T
T V X Y A N T B D F H J L N P R T V X Z
A A C E G I G K M O B I T T E R B L U E
U Q S U W Y A L B D F E H J L N Y O E P
G R U B S A C O C D F J R K M P R E E B
U A W E E V I L S I O W P M L A N T R R
S F U O D P X T V M D L O A U D S U X O
T F V A S U B G R A D E T F Z D I M V A
I A O S M A S Y H A R H A U D O A I T D
N I P S M A S P A H R U I N F L I N E C
E R O S I O N S G O T R E G D T A S M A
B W E B W O R M A R U E D E V I L T L T
C D I A E I O U O A B A H I A S T S V E
L M A N P R U W Y L A C E G I M P S V Y
O Q T S T V X Z B D E F K L T U R F X Z
C R A B G R A S S H J N O Q R T U W A B

ESTABLISHING LAWNS AND TURFS IN FLORIDA

Worksheet for Activity #16: Sentence Activity

Directions: Rewrite the following sentences adding punctuation and capitalization to them.

1. john a senior is in the horticulture team

2. every morning after class he checks each plant for disease

3. please use the latin names for all ornamentals said mr. greenthumb

4. the title of the book is florida lawns and gardens.

5. the orchid exhibit for the orlando orchid club was excellent

6. the prettiest azaleas we saw are those next to lake virginia

7. the wymore tech exhibit at the central florida fair won first place

Worksheet for Activity #16 cont.

8. mayor west dedicated the gardens on june 7 1972 to the city of maitland

_____

_____

9. did you spray the lawn for chinch bugs said mrs. nosey.

_____

_____

10. azaleas a favorite flower of most floridians bloom profusely

_____

_____

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

PRETEST NAME _____

1. Top soils in Florida are usually low in organic matter. List 2 materials accepted as soil amendments

   a. _____

   b. _____

2. Lawn grass may be started by the following methods.

   a. _____

   b. _____

   c. _____

   d. _____

3. True or False statements (circle the "T" or "F")

   a. Summer is the best time to start a new lawn vegetatively.

      T or F

   b. The soil pH should be in the range 7.0 to 8.0 before planting lawn grasses.

      T or F

   c. Some soils should be sterilized before planting grass.

      T or F

   d. All lawns may be started from seeds in Florida.

      T or F

   e. A mist type irrigation system is ideal for Florida lawns.

      T or F

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

PRETEST cont. NAME _____

4. Explain asexual and sexual methods of propagating lawn grasses.

5. The grade on a lawn should be _____ inches for every _____ linear foot.

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

POST TEST: VOCATIONAL NAME _____

1. A chemical used to sterilize soils before planting lawns is _____.

2. Soil tests are made to determine the _____ and _____.

3. The grade on a lawn should be _____ inches for every _____ linear foot.

4. 10 lbs. of Bahia grass seed is recommended to cover a 1000 square foot. How many pounds of Bahia seed is needed for a lawn 110' x 125'? _____

5. Circle the "T" if the statement is TRUE and the "F" if the statement is FALSE.

   a. Bahia maybe propagated by sprigging. T or F

   b. Centipede grass has a long root system with large leaf blades. T or F

   c. Most lawn grasses require a pH of 6.0 to 6.5. T or F

   d. All lawn grasses in Florida have fine texture. T or F

   e. When sprigging grasses, they should be planted 8 to 12 inches in center. T or F

6. For each question below the correct sequence must be followed. Read each step and mark (a) in the space provided if you think the step is first; (b) if you think it is second, etc.

   A. Preparing soils for planting lawns

      1. adding and mixing soil amendments ( )

      2. grading and leveling ( )

      3. cleaning debris from area ( )

      4. turning over soil ( )

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

POST TEST: VOCATIONAL cont. NAME _____

B. Steps in testing soil for pH level

1. place soil in cavities of dish ( )
2. apply reagent to samples ( )
3. secure soil reaction tester ( )
4. collect a composite soil sample ( )

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

POST TEST: MATH NAME _____

1. A lot 67 feet by 150 feet needs seeding. What is the perimeter and area of this lot?

2. What is the perimeter and area of a lot 150 feet long and 115 feet wide?

3. If the area of a square piece of land is 625 square feet, find its length and width.

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

POST TEST: LANGUAGE ARTS NAME _____

1. See instructor for a spelling test.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   f. _____

   g. _____

   h. _____

   i. _____

   j. _____

   k. _____

   l. _____

   m. _____

   n. _____

   o. _____

2. Define each word you spelled in question #1.

3. Pronounce for the instructor each word spelled in question #1.

4. Punctuate and capitalize the following sentences.

   a. the title of the horticulture show was a green spring

      _____

      _____

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

POST TEST: LANGUAGE ARTS cont. NAME _____

b. the chemical an insecticide was highly toxic

_____

_____

c. mr. happy the horticulture teacher was extremely proud of the greenhouse crew

_____

_____

d. fred planted the gardenia April 19 1952 and its now the pride of his garden

_____

_____

e. hes in the greenhouse said mr. gruff and id rather he was not disturbed

_____

_____

f. the banks of lake jean were landscaped by wonderland nursery

_____

_____

g. joe took the ford pickup to the orlando depot to pick up a load of nursery stock

_____

_____

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

POST TEST: LANGUAGE ARTS cont. NAME _____

i. orange trees a major crop in florida yield the added blessing of their fragrance in march and april

_____

_____

GROUNDS MAINTENANCE EMPLOYEE

ESTABLISHING LAWNS AND TURFS IN FLORIDA

LAP #2

EVALUATION NAME _____

The student can	Date Completed	Initial
1. prepare a lawn soil and mix necessary ingredients preparatory to planting grass or sowing seed.	_____	_____
2. grade and level an assigned plot of land.	_____	_____
3. obtain and test soil samples for pH level and nutrient level and recommend necessary soil treatment.	_____	_____
4. install an irrigation and drainage system on an assigned plot of land.	_____	_____
5. plant an assigned plot of land with lawn grass.	_____	_____
6. demonstrate knowledge of the mathematical principles of area and perimeter by completing given, related problems.	_____	_____
7. spell and pronounce a given list of related terms.	_____	_____
8. define, in writing, a given list of related terms.	_____	_____
9. supply necessary punctuation and capitalization to given sentences.	_____	_____

HORTICULTURE

TASK DETAILING SHEET

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

TASK: CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

NO.	STEPS IN PERFORMING TASK	TYPE OF PERFORMANCE	LEARNING DIFFICUTLY
1	Identifies lawn insects in Florida	Discrimination	Difficult
2	Identifies damage caused by Florida lawn insects	Discrimination	Difficult
3	Identifies forms of lawn insecticides	Recall	Easy
4	Lists chemicals used to control lawn insects	Recall	Easy
5	Identifies diseases of lawns and turfs	Discrimination	Difficult
6	Diagnoses and recommends control of lawn diseases	Discrimination	Difficult
7	Diagnoses and recommends control of insect problems	Discrimination	Difficult
8	Operates and maintains chemical sprayers	Manipulation	Easy

WYMORE VOCATIONAL TECHNICAL CENTER

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

GROUNDS MAINTENANCE EMPLOYEE

NAME _____

LAP #3

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

I. Directions

1. Read the entire package carefully. If you need help, see the instructor.

2. See instructor for pretest.

3. Complete the learning activities.

4. Complete the post test.

A score of 85% is needed on the horticulture post test, and a score of 85% is needed on each of the related post tests as evidence for successful completion of this package.

II. Goal: To develop in the horticulture student the necessary skills and techniques needed to control insects and diseases of lawns and turfs.

III. Specific Objectives

The student will

1. list 5 lawn insects and the physical characteristics of each.

2. describe, in writing, the damage caused 5 given lawn insects.

3. demonstrate the ability to apply the rules of punctuation, capitalization, grammar, and spelling by writing a paragraph on a given, related topic.

4. list 3 forms in which lawn insecticides are available.

5. list 5 chemicals used to control lawn insects.

6. list 3 lawn diseases, the characteristics of each, and a chemical to control each.

7. diagnose and recommend a control for a given lawn disease.

8. diagnose and recommend a control for a given insect problem.

9. operate and maintain chemical sprayers.

10. spell a given list of related terms.

11. define, in writing, a given list of job related terms.

12. compose a friendly letter using correct form, punctuation, capitalization and spelling.

IV. Activities, Materials and Resources

1. Using Florida Lawns and Gardens, Florida Insects, Their Habits and Control, and Lawn Insect Control Guide as references, make a list of 5 lawn insects and give the physical characteristics of each.
   Use the worksheet on page 4 of this package to complete this activity.

2. Applying the rules of correct punctuation, capitalization, grammar and spelling, describe in paragraph form the damage caused by the insects listed in activity #1.
   Use the worksheet on page 4 of this package.

3. List at least 3 forms in which lawn insecticides are available to individual users. (Refer to the references listed in activity #1 for help. Lawn Insect Control Guide - pages 3-5.)

4. Select 5 chemicals used to control lawn insects. (Chemical or trade names are acceptable). Refer to the pamphlet, Recommendation for Commercial Lawn Spraymen.

5. Using the references listed (refer to table of contents for your specific needs), complete the following:

   A. Make a list of 3 lawn diseases.

   B. List the characteristics of each disease.

   C. List a chemical to control each disease.

   References: Florida Lawns and Gardens
   Ornamental Horticulture as a Vocation
   The Lawn Book

6. See the instructor for individual instructions on completing the following:

   A. Diagnose an instructor selected disease problem, recommend a control, and spray the diseased area.

   B. Diagnose a teacher selected insect problem; recommend a control and spray the infected area.

   C. Clean and store all equipment used in A & B above. Replace chemicals in locked cabinet.

7. Learn to spell the words in the vocabulary, pages 5 through 6 of this package.

IV. Activities, Materials and Resources cont.

8. Define the words in the vocabulary, pages 5 through 6, and learn these definitions.

9. Using the worksheet on page 7 of this package, write a friendly letter describing what you are learning at school. Use correct punctuation, capitalization, grammar and spelling.

Worksheet for Activity #1 and #2:

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

Worksheet for Activities #7 and #8: Vocabulary

1. chinch bugs _____

2. molecricket _____

3. sod web worms _____

4. malathion _____

5. circular _____

6. captan _____

7. fungicide _____

8. contaminate _____

9. decontaminated _____

10. characteristics _____

11. imulsifiable _____

12. toxic _____

Worksheet for Activities #7 and #8 cont.

13. dieldrin _____

_____

14. heptachlor _____

_____

15. aldrin _____

_____

16. adjacent _____

_____

Worksheet for Activity #9:

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

PRETEST NAME _____

True or False statements (Circle the "T" or "F").

T - F 1. Chinch bugs are chewing insects with a wing span of 2 inches.

T - F 2. Molecricket damage is distinguished by large holes in blades of grass.

T - F 3. Sod web worms may be controlled by spraying with diazinon.

T - F 4. Japanese beetles damage all varieties of grass in Florida.

T - F 5. Mites will cause Burmuda grass to have a tuffed affect on the blades.

T - F 6. Brown patch disease is easily controlled by spraying with malathion.

T - F 7. Dollar spot disease causes circular brown patterns in lawns the size of a silver dollar.

T - F 8. Rust disease is very serious on winter rye grass.

T - F 9. Captan is a fungicide recommended to control dollar spot.

T - F 10. Chemical sprayers may be decontaminated with a detergent and water.

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

POST TEST: VOCATIONAL NAME _____

I. Match the chemical in column II with the insect it will destroy in column I. Use the space provided on the left of column I for the correct answer.

A. Lawn insects

Column I	Column II
_____ 1. chinch bug	a. captan
_____ 2. molecricket	b. dursban
_____ 3. grubs	c. malathion
_____ 4. sod web worm	d. diazanon
_____ 5. army worms	e. chlordane
	f. sevin
	g. neutral copper

B. Lawn Disease

Column I	Column II
_____ 1. dollar spot	a. DDT
_____ 2. brown patch	b. thiram
_____ 3. rust	c. neutral copper
_____ 4. gray leaf spot	d. daconil
	e. zineb
	f. parathion

II. List three forms in which insecticides are available to spraymen.

a. _____

b. _____

c. _____

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

POST TEST: VOCATIONAL cont. NAME _____

III. True or False statements (Circle the "T" or "F").

T - F 1. Chinch bugs are chewing insects with a wing span of 2 inches.

T - F 2. Molecricket damage is distinguished by large holes in blades of grass.

T - F 3. Sod web worms may be controlled by spraying with diazinon.

T - F 4. Japanese beetles damage all varieties of grass in Florida.

T - F 5. Mites will cause Burmuda grass to have a tuffed affect on the blades.

T - F 6. Brown patch disease is easily controlled by spraying with malation.

T - F 7. Dollar spot disease causes circular brown patterns in lawns the size of a silver dollar.

T - F 8. Rust disease is very serious on winter rye grass.

T - F 9. Captan is a fungicide recommended to control dollar spot.

T - F 10. Chemical sprayers may be decontaminated with a detergent and water.

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

POST TEST: LANGUAGE ARTS NAME _____

1. Correct and copy your writing assignment from activity #2 on the lines below.

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

POST TEST: LANGUAGE ARTS cont. NAME _____

2. Spell the words in the package as dictated by your instructor.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. Orally define the words you spelled in question #2 for your instructor.

4. Correct and copy your letter on the following lines.

_____

_____

_____

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

POST TEST: LANGUAGE ARTS cont. NAME _____

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

POST TEST: LANGUAGE ARTS cont. NAME _____

GROUNDS MAINTENANCE EMPLOYEE

CONTROLLING INSECTS AND DISEASES OF LAWNS AND TURFS

LAP #3

EVALUATION NAME _____

The student can	Date Completed	Initial
1. list 5 lawn insects and the physical characteristics of each.	_____	_____
2. describe, in writing, the damage caused by five given lawn insects.	_____	_____
3. demonstrate the ability to apply the rules of punctuation, capitalization, grammar, and spelling by writing a paragraph on a given, related topic.	_____	_____
4. list 3 forms in which lawn insecticides are available.	_____	_____
5. list 5 chemicals used to control lawn insects.	_____	_____
6. list 3 lawn diseases, the characteristics of each, and a chemical to control each.	_____	_____
7. diagnose and recommend a control for a given lawn disease.	_____	_____
8. diagnose and recommend a control for a given insect problem.	_____	_____
9. operate and maintain chemical sprayers.	_____	_____
10. spell a given list of related terms.	_____	_____
11. define, in writing, a given list of job related terms.	_____	_____
12. compose a friendly letter using correct form, punctuation, capitalization and spelling.	_____	_____

HORTICULTURE

TASK DETAILING SHEET

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

TASK: CARE AND MAINTENANCE OF LAWNS AND TURFS

NO.	STEPS IN PERFORMING TASK	TYPE OF PERFORMANCE	LEARNING DIFFICULTY
1	Determines the height and frequency of mowing grasses	Discrimination	Easy
2	Adjusts mower to proper height for mowing	Manipulation	Easy
3	Determines the frequency of fertilization	Discrimination	Easy
4	Applies fertilizer	Manipulation	Easy
5	Determines frequency and amount of watering necessary	Discrimination	Easy
6	Identifies and installs irrigation equipment	Discrimination Manipulation	Easy
7	Identifies and applies an herbicide to be used on each of the 5 types of lawn grasses	Discrimination Manipulation	Difficult
8	Renovates lawns for thatch removal	Manipulation	Easy

WYMORE VOCATIONAL TECHNICAL CENTER

CARE AND MAINTENANCE OF LAWNS AND TURFS

GROUNDS MAINTENANCE EMPLOYEE NAME _____

LAP #4

CARE AND MAINTENANCE OF LAWNS AND TURFS

I. Directions

1. Read the entire package carefully. If you need help, see the instructor.

2. See instructor for pretest.

3. Complete the learning activities.

4. Check Activities #4, #9 and #11 to observe changes.

5. Clean and store equipment and supplies when you have finished with them.

6. Complete the post test.

   A score of 85% is needed on the horticulture post test, and a score of 85% is needed on each of the related post tests as evidence for successful completion of this package.

II. Goal: To develop in the horticulture student the skills necessary in caring for and maintaining lawns and turfs.

III. Specific Objectives

The student will

1. determine the height and frequency of mowing the 5 major types of lawn grass by completing teacher selected assignments.

2. adjust a mower to its proper height for mowing an instructor - assigned grass type.

3. determine the frequency of fertilization of the 5 major varieties of grass by completing a teacher selected assignment.

4. apply a granular fertilizer over a designated lawn area.

5. determine the frequency of watering and amounts of water needed for a given number of grasses.

6. list the 3 types of lawn irrigation devices.

7. install irrigation equipment in an assigned area.

8. determine and list one herbicide to be used on each of the 5 major types of lawn grasses.

9. apply an herbicide to an instructor - assigned lawn area.

III. Specific Objectives cont.

10. demonstrate an understanding of thatch buildup and the methods for its removal by removing thatch from an instructor assigned lawn area.

11. spell a given list of related terms.

12. demonstrate a knowledge of the meanings of given, related words by using them in oral and/or written sentences.

13. compose a letter of application applying proper form, punctuation, capitalization, grammar and spelling.

CARE AND MAINTENANCE OF LAWNS AND TURFS

IV. Activities, Materials and Resources

1. Using Florida Lawns and Gardens, pages 30-37 as a reference, state, in writing, the height of the 5 types of lawn grasses.

2. Adjust the mower to its proper height for mowing an instructor-assigned grass type.

3. Using Florida Lawns and Gardens, pages 30-37 as a reference, list, in writing the frequency of fertilizing the 5 major types of grass.

4. Using a granular fertilizer and a calibrated applicator, apply a prescribed amount over an instructor-designated lawn area.

5. Using The Lawn Book as a reference, pages 92-103, explain, in paragraph form, two methods used to determine when water should be added to a lawn and the amount of water to be applied.

6. List the 3 various types of lawn irrigation devices. If possible, include in your list the price and an illustration of each.

7. Using the following references, install irrigation equipment to an instructor-assigned area.

   References: 1. The Lawn Book, pages 92-103.

   2. NASCO Catalog, pages 7-8

8. List the 5 major grasses and, beside each, list the name of one herbicide for each.

9. With a special applicator supplied by the instructor, apply an herbicide to an instructor-assigned lawn area.

10. Read and study pages 33-36 in Florida Lawns and Gardens. Then, discuss, in writing, the following

    a. cause of thatch build-up.

    b. steps to follow in de-thatching Bahia and St. Augustine Lawns.

    c. adjustment of de-thatching machine.

11. Operate the de-thatching machine over an instructor-assigned area.

IV. Activities, Materials and Resources cont.

12. Learn to spell the words in the vocabulary, pages 5 through 6 of this package.

13. Use the words in the vocabulary, pages 5 through 6 in at least three oral sentences for your instructor or a fellow student. Look the definitions up in a dictionary if you are unsure of their meanings.

14. Complete the "Word Puzzle," page 7 of this package.

15. Using the worksheet, page 8 of this package, write a letter of application. Pretend you are applying for a job as a grounds maintenance employee. Observe:

    a. correct letter form

    b. rules of punctuation

    c. rules of capitalization

    d. rules of grammar

    e. correct spelling

    See pages 65-69 of English on the Job for a reference.

CARE AND MAINTENANCE OF LAWNS AND TURFS

Worksheet for Activities #12 and #13: Vocabulary

1. slope _____

2. grading _____

3. retaining wall _____

4. knoll _____

5. foundation _____

6. terrace _____

7. design _____

8. foreground _____

9. privacy _____

10. accessibility _____

11. recreational _____

12. leisure _____

Worksheet for Activities #12 and #13 cont.

13. naturalistic _____

_____

14. anticipate _____

_____

15. sodding _____

_____

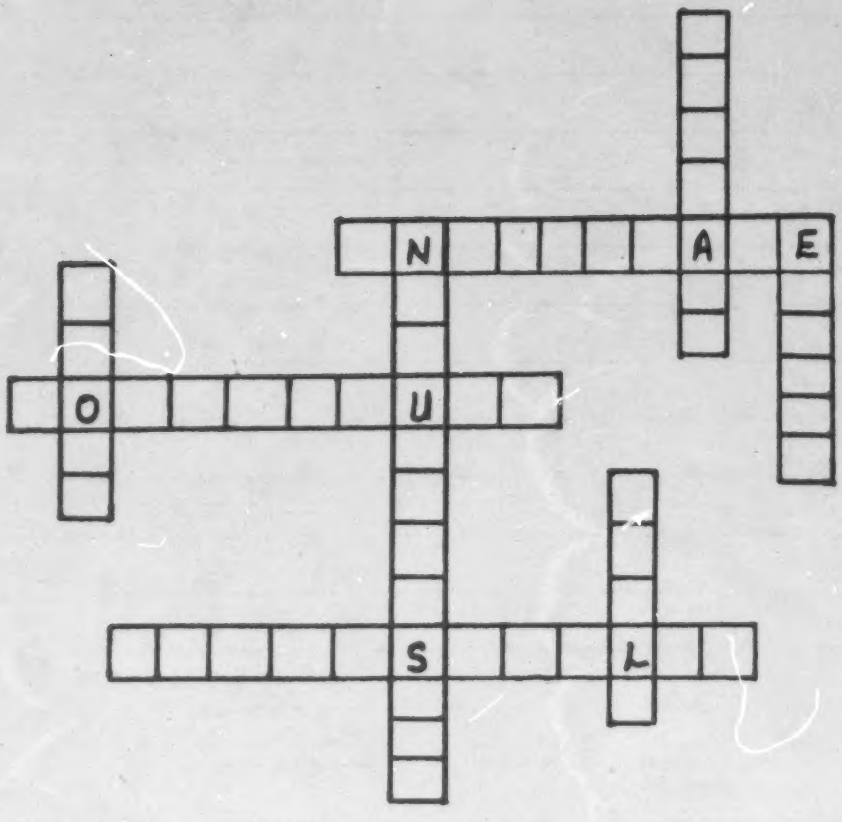
16. seedbed _____

_____

CARE AND MAINTENANCE OF LAWNS AND TURFS

Worksheet for Activity #14: Word Puzzle

Directions: By filling the following blanks you will spell some of your spelling words. See if you can complete the puzzle without looking at your glossary.



CARE AND MAINTENANCE OF LAWNS AND TURFS

Worksheet for Activity #15:

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

PRETEST: NAME _____

1. In the space provided, write in the height of mowing for each grass.

Type Grass	Mowing Height
a. Burmuda	_____
b. Zoysia	_____
c. Bahia	_____
d. St. Augustine	_____
e. Rye	_____

2. Burmuda Grass should be fertilized _____ times a year for best growth.

3. Water should be applied to area in sufficent amounts, in that soil is moist to a depth of _____ inches.

4. List below 4 types of sprinklers used for lawn irrigation

   a. _____

   b. _____

   c. _____

   d. _____

5. Atrazine is an herbicide acceptable for use on the following grasses:

   a. _____

   b. _____

   c. _____

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

PRETEST: cont. NAME _____

6. Outline the steps necessary in de-thatching a lawn of St. Augustine grass.

7. Explain for the instructor the procedure for completing each of the following:

   a. adjusting a mower to its proper height for mowing a grass type (type to be designated by instructor).

   b. applying a granular fertilizer over a lawn area.

   c. installing irrigation equipment.

   d. applying an herbicide to a lawn.

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

POST TEST: VOCATIONAL NAME _____

1. True or False statements (circle "T" of "F").

T - F a. Lawns should be de-thatched once a year.

T - F b. Chinch bugs cause thatch problems in St. Augustine lawns.

T - F c. Scattering top soil on lawns is best to reduce thatch.

T - F d. Herbicides and insecticides should not be applied with the same applicator.

T - F e. Herbicides should not be applied on windy days.

T - F f. Cost wise, the rainbird sprinkler is the cheapest on the market.

T - F g. Water is applied to lawns at night to prevent evaperation.

T - F h. Grass wilting is a good indication that water is needed.

T - F i. Burmuda and Bahia grasses are fertilized 6 times per year.

T - F j. St. Augustine grass thrives best at a mowing height of 1 to 1 1/2 inches.

2. In the space provided, write in the height of mowing for each grass.

Type Grass	Mowing Height
a. Burmuda	_____
b. Zoysia	_____
c. Bahia	_____
d. St. Augustine	_____
e. Rye	_____

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

POST TEST: VOCATIONAL cont. NAME _____

3. Burmuda grass should be fertilized _____ times a year for best growth.

4. Water should be applied to area in sufficient amounts, in that soil is moist to a depth of _____ inches.

5. List below 4 types of sprinklers used for lawn irrigation.

   a. _____

   b. _____

   c. _____

   d. _____

6. Atrazine is an herbicide acceptable for use on the following grasses:

   a. _____

   b. _____

   c. _____

7. Discuss with the instructor your performance in completing the following tasks. Note any improvements you may make as you repeat these tasks in the future:

   a. adjusting a mower to its proper height for mowing designated grass types.

   b. applying a granular fertilizer.

   c. installing irrigation equipment.

   d. applying an herbicide to lawns.

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

POST TEST: LANGUAGE ARTS NAME _____

1. Spell the words studied in this package as dictated by your instructor.

2. Use each word spelled in question #1 in an original sentence. Use the space below to write your sentences.

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

POST TEST: LANGUAGE ARTS cont. NAME _____

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

POST TEST: LANGUAGE ARTS cont. NAME _____

3. Correct and copy your letter of application on the following lines.

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

POST TEST: LANGUAGE ARTS cont. NAME _____

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

EVALUATION: NAME _____

The student can:	Date Developed	Initial
1. determine the height and frequency of mowing the 5 major types of lawn grass by completing teacher selected assignments.	_____	_____
2. adjust a mower to its proper height for mowing an instructor-assigned grass type.	_____	_____
3. determine the frequency of fertilization of the 5 major varieties of grass by completing a teacher selected assignment.	_____	_____
4. apply a granular fertilizer over a designated lawn area.	_____	_____
5. determine the frequency of watering and amounts of water needed for a given number of grasses.	_____	_____
6. list the 3 types of lawn irrigation devices.	_____	_____
7. install irrigation equipment in an assigned area.	_____	_____
8. determine and list one herbicide to be used on each of the 5 major types of lawn grasses.	_____	_____
9. apply an herbicide to an instructor-assigned lawn area.	_____	_____
10. demonstrate an understanding of thatch buildup and the methods for its removal by removing thatch from an instructor-assigned lawn area.	_____	_____

GROUNDS MAINTENANCE EMPLOYEE

CARE AND MAINTENANCE OF LAWNS AND TURFS

LAP #4

EVALUATION cont. NAME _____

The student can	Date Completed	Initial
11. spell a given list of related terms.	_____	_____
12. demonstrate a knowledge of the meanings of given, related words by using them in oral and/or written sentences.	_____	_____
13. compose a letter of application applying proper form, punctuation, capitalization, grammar and spelling.	_____	_____

HORTICULTURE

TASK DETAILING SHEET

JOB ENTRY - GROUNDS MAINTENANCE EMPLOYEE

TASK: PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

NO.	STEPS IN PERFORMING TASK	TYPE OF PERFORMANCE	LEARNING DIFFICULTY
1	Identifies various lawn tools and equipment	Discrimination	Easy
2	Operates and uses various lawn tools	Manipulation	Easy
3	Cleans and stores lawn care equipment	Manipulation	Easy
4	Performs preventive maintenance on lawn equipment	Manipulation	Easy
5	Prepares sample purchase order of tools necessary for entry into lawn maintenance business	Recall Discrimination	Easy

WYMORE VOCATIONAL TECHNICAL CENTER

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

GROUNDS MAINTENANCE NAME _____

LAP #5

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

I. Directions

1. Read the entire package carefully. If you need help, see the instructor.

2. See instructor for pretest.

3. Complete the learning activities.

4. See instructor for necessary tools and equipment.

5. Complete the post test.

   A score of 85% is needed on the horticulture post test, and a score of 85% is needed on each of the related post tests as evidence for successful completion of this package.

II. Goal: To develop in the horticulture student the proper skills and techniques to be employed when using and caring for lawn tools and equipment.

III. Specific Objectives

The student will

1. using references provided by the instructor, identify, in writing, 10 basic lawn tools and pieces of equipment.

2. operate and use 5 selected pieces of equipment.

3. clean and place in storage an assigned piece of equipment.

4. perform preventive maintenance on an assigned piece of equipment.

5. using given references, prepare a sample purchase order of tools and equipment needed for entry into the lawn maintenance business.

6. spell a given list of related terms.

7. demonstrate a knowledge of the meaning of related terms by using them in oral and/or written sentences.

8. identify nouns in a written narrative.

9. compute the amount of discount and net price of given lawn and garden tools and equipment.

IV. Activities, Materials and Resources

1. List in writing 10 common lawn tools and pieces of equipment. Describe, in writing, the use of each tool. Use the following references as aids:

   a. Penington Lawn and Garden Catalog

   b. Snappin' Turtle Equipment Booklet

2. See the instructor for operator's manual on an assigned piece of lawn equipment. Outline, in writing, the steps of operation for this piece of equipment.

3. Demonstrate to the instructor the proper operation and use of 5 pieces of equipment. (You may select the equipment used for the demonstration.)

4. Clean a piece of equipment assigned by the instructor and place it in storage. See instructor for the following necessary materials:

   a. Kerosene or Fuel oil

   b. Brushes and cloth

   c. Water hose

5. a. Outline, in writing, the preventive maintenance steps to follow on a piece of equipment assigned by the instructor.
   Use as a reference the Operator's Manual for the assigned piece of equipment.

   b. Perform preventive maintenance on an assigned piece of equipment.

6. Using the references listed below and the knowledge you have gained in the past four packages in grounds maintenance, prepare a purchase order of necessary tools and equipment for an individual to enter business for himself.

   a. Sear's Catalog

   b. Nasco Catalog

   c. Snappin' Turtle Lawn Book

7. Learn to spell the words in the vocabulary on pages 4 through 5 of this package.

IV. Activities, Materials and Resources cont.

8. Use the words in the vocabulary, pages 4 through 5 of this package, in at least three oral sentences for your instructor.

9. Complete the "Noun Identification," page 6, of this package.

10. Complete the "Math Activity Worksheet" found on page 7 of this package.

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

Worksheet for Activities #7 and #8: Vocabulary

1. sisal _____

2. carry-all _____

3. carrier _____

4. spade _____

5. shovel _____

6. twine _____

7. pliers _____

8. polethylene _____

9. auger _____

10. edger _____

11. cultivator _____

12. fiberglass _____

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

Worksheet for Activities #7 and #8 cont.

13. shear _____

_____

14. pruner _____

_____

15. ratchet _____

_____

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

Worksheet for Activity #9: Noun Identification

Directions: Circle the nouns in the following paragraphs.

Some plants are much more difficult to graft than others, even when no incompatibility is involved. Difficult ones, for example, are the hickories, oaks, and beeches. Such plants, once grafted, though, grow very well with a perfect graft union. In top-grafting apples and pears, even the simplest techniques usually give a good percentage of successful unions, but in top-grafting certain of the stone fruits, such as peaches and apricots, much more care and attention to details is necessary. Strangely enough, top-grafting peaches to some other compatible species, such as plums or almonds, is more successfully done than reworking them back to peaches.

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

Worksheet for Activity #10: Math Activity

Discount and Net Price

Find the discount and net price of the following:

	List Price	Rate of Discount	Amount of Discount	Net Price
Rotary Mower	$250.00	30%	_____	_____
Reel Mower	150.00	25%	_____	_____
Hedge Trimmer	35.95	20%	_____	_____
Lawn Vacuum	155.50	10%	_____	_____
Wheel Barrow	17.50	15%	_____	_____
Fertilizer Spreader	14.50	25%	_____	_____
Hand Prunner	9.95	20%	_____	_____
Lawn Roller	65.00	25%	_____	_____
Edger	96.40	20%	_____	_____
Lopping Shears	10.50	10%	_____	_____
Roto-Filler	795.00	50%	_____	_____
Verticut Machine	300.00	33 1/3%	_____	_____
Power Spreader	18.50	50%	_____	_____
Hand Spreader	20.30	12 1/2%	_____	_____
Duster	27.95	25%	_____	_____
Chain Saw	149.00	15%	_____	_____
Soil Sterilizer	325.70	30%	_____	_____
Soil Shredder	175.50	30%	_____	_____

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

PRETEST: NAME _____

1. Draw illustrations and label 10 lawn tools and/or pieces equipment.

2. For the instructor, operate 6 teacher selected pieces of equipment.

3. Explain in detail how to clean and store a teacher assigned piece of equipment.

4. For the instructor, perform preventive maintenance on a teacher selected piece of equipment.

5. See the instructor for specific instructions on completing a purchase order of tools and equipment necessary for an individual to enter business for himself.

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

POST TEST: VOCATIONAL NAME _____

I. True or False Statements (Circle the "T" or "F").

T - F a. There is little danger in adding gasoline to an engine while running.

T - F b. Gas should be completely drained from the tank when storing a lawn mower for the winter.

T - F c. Most lawn equipment perform better with high test gasoline.

T - F d. The oil level in equipment should be checked at least once every two weeks.

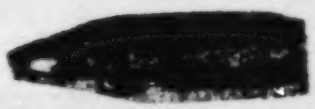
T - F e. The spark plug wire should be disconnected before making adjustments on motorized lawn equipment.

T - F f. The air cleaner should be cleaned frequently.

T - F g. Gasoline is an acceptable cleaning agent for lawn equipment.

T - F h. There is a 3% sales tax on the purchase of lawn equipment.

II. Write the name of each tool in the space provided beneath the illustration.



A _____ B _____

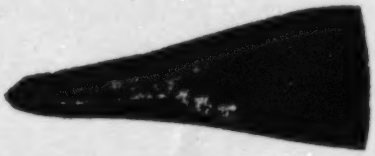
GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

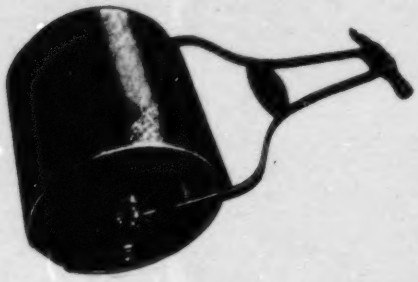
POST TEST: VOCATIONAL cont. NAME _____

C _____



D _____

E _____



F _____

G _____

H _____

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

POST TEST: VOCATIONAL cont. NAME _____

III. Demonstrate the operation and use of an instructor designated piece of equipment.
Note: If the student has demonstrated in the activities his ability to perform any or all of the following, that part may be waived at the discretion of the instructor.

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

POST TEST: LANGUAGE ARTS NAME _____

1. Spell the words in the vocabulary as dictated by your instructor.

2. Use each word which you spelled above in an original written sentence.

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

POST TEST: LANGUAGE ARTS cont. NAME _____

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

POST TEST: LANGUAGE ARTS cont. NAME _____

_____

_____

_____

_____

_____

3. Circle the nouns in the following paragraph.

Growing trees and shrubs by seeds is an important part of nursery production. Some nurseries propagate seedlings almost entirely, dealing very little in vegetative methods. This is true in the production of trees and shrubs for reforestation, roadside planting, erosion control, and similar purposes.

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

POST TEST: MATH NAME _____

1. Compute the discount and net price of the following.

Item	List Price	Rate of Discount	Amount of Discount	Net Price
Prunner	$11.95	15%	_____	_____
Spreader	18.75	20%	_____	_____
Hedge Trimmer	35.50	25%	_____	_____
Edger	85.00	33 1/3%	_____	_____
Duster	19.50	10%	_____	_____

GROUNDS MAINTENANCE EMPLOYEE

PROPER USE AND CARE OF LAWN TOOLS AND EQUIPMENT

LAP #5

EVALUATION

NAME _____

The student can	Date Completed	Initial
1. using references provided by the instructor, identify, in writing, 10 basic lawn tools and pieces of equipment.	_____	_____
2. operate and use 5 selected pieces of equipment.	_____	_____
3. clean and place in storage an assigned piece of equipment.	_____	_____
4. perform preventive maintenance on an assigned piece of equipment.	_____	_____
5. using given references, prepare a sample purchase order of tools and equipment needed for entry into the lawn maintenance business.	_____	_____
6. spell a given list of related terms.	_____	_____
7. demonstrate a knowledge of the meaning of related terms by using them in oral and/or written sentences.	_____	_____
8. identify nouns in a written narrative.	_____	_____
9. compute the amount of discount and net price of given lawn and garden tools and equipment.	_____	_____

HORTICULTURE

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4. Moore, Stanly B.; Ornamental Horticulture As A Vocation; Munkus Publishing Co. Inc.; P.O. Box 984; Fairborn, Ohio 45324; 1969.

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6. Pennington Lawn and Graden Catalog; Orlando, Florida; 1972.

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